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Robert Geller
Hazardous Waste Program
Division of Environmental Quality
Department of Natural Resources
P.O. Box 176
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Subject: Engineering Evaluation/Cost Analysis for the Proposed Removal Action at the Southeast Drainage at the Weldon Spring site, Weldon Spring, Missouri.

Dear Mr. Geller:

As requested, the Missouri Department of Health, Bureau of Environmental Epidemiology, has reviewed the subject document. We will discuss it in three sections: 1.) Specific comments regarding the document's scientific approach and technical accuracy; 2.) How the document interfaces with the risk reduction philosophy of the Missouri Department of Health; and 3.) Recommendations to the Department of Natural Resources regarding clean-up level targets and possible approaches to reach these targets.

1.) Based on the information provided, we have the following specific comments about the document's scientific approach and technical accuracy. We reviewed the analytical data to determine if it was detailed enough to produce a baseline risk assessment that would be accurate enough for us to accept for this site. Because the data was sub-divided into four separate geographic sections and because the risk analysis was also presented for each of these sections, we feel the amount of data was generally adequate. We also feel that if the Department of Energy (DOE) completes their detailed characterization as has been discussed, before any final excavation plans are implemented, data gaps now evident (as for example in Section "C") will be filled in.

We reviewed all the assumptions and scenarios developed for the risk assessment and feel they are complete and adequately conservative. Had DOE been unwilling to accept our "modified future residential child exposure scenario" proposal we would not have this opinion. Even though it is unlikely such a scenario would ever occur at this site, the possibility exists that ownership and land use could change, therefore we felt it imperative this scenario be developed. We do not feel that the current hunter scenario exposure assumptions would have adequately protected for possible future residential exposures.

2.) The Missouri Department of Health has adopted a philosophy which strives to protect Missourians from risks due to exposure from hazardous substances and conditions at a level equal to or less than 1 excess illness in 100,000 persons. Because of that philosophy, we reviewed the proposed removal action alternatives with a goal of achieving that level of risk reduction. Since the residential child exposure scenario assumes a child would live near and occasionally play in the contaminated drainage, we feel it important to try and reduce the risks in the drainage to that level or less. But because of the length of the drainage, and the steep terrain, we feel that exposure to the entire drainage by an individual child is unlikely. Therefore, we compared the proposed action alternatives for each of the sections of the drainage with the 1×10^{-5} risk level. Based on those comparisons we feel all four of the drainage sections require some level of remediation.

3.) The Missouri Department of Health does not feel that DOEs proposed action Alternative 2.1, is adequate to reduce the risk from exposure to all of the sections of the Southeast drainage. We believe that because B, C, and D are contiguous and that B is accessible from both Highway 94 and Section C, a more concerted attempt to lower the risk in section B should be implemented. Even though, according to Table 9, additional removal of material from Section B would be the most costly per cubic yard removed ($10,000), it may be possible to substantially reduce the risk by carefully choosing which portions of Section B to remove. The decision as to which parts of Section B to remediate may become easier after the characterization is completed.

Section A, because it is not adjacent to the other sections could be approached differently. From a cost-benefit viewpoint, it would be the least costly per cubic yard to remediate (Table 9). Also, because the highest risks resulted from samples at the upper and lower portions of Section A (sample # 001-1A, 005-1C, 2A, 2B) it might not be necessary to remediate all of that section to yield a significant reduction in risk. That approach might also reduce the possibility of ecological damage mentioned by DOE. To reduce ecological damage even more, the lower end of Section A might be addressed by utilization of a crane to move equipment into and out of the stream bed and as a means to remove containers of soil without damaging the slopes.

In conclusion, we believe the approach DOE is proposing is sound, that the risk assessment is adequate in estimating risks, but that the risk reductions proposed in Alternative 2.1 are not sufficient. We hope your agency can influence DOE to reduce risks closer to a 1×10^{-5} level in Sections A and B by actions in addition to those proposed.

If you have further questions or concerns about our position on this subject, please feel free to contact myself or Mr. Gale Carlson of my staff at your convenience.

Sincerely,

Daryl W. Roberts
Chief
Bureau of Environmental Epidemiology

DWR:GMC/mw
cc: Ken Lawver